Bilateral Nevus Comedonicus: Efficacy of Topical Tacalcitol Ointment

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Sir,

Nevus comedonicus (NC) consists of grouped or clustered tiny papules with a dark, firm, keratotic plug at the centre resembling a comedo (1). It is commonly unilateral but occasionally bilateral (2). Histopathologically, there is a wide and deep invagination of the epidermis, which is filled with keratinous material and resembles a dilated hair follicle (1). We report the case of a girl with NC.

CASE REPORT

A 13-year-old girl first noticed keratotic papules on the bilateral dorsal hands 5 months prior to the initial consultation. The papules spread gradually. Physical examination demonstrated linearly arranged, tiny papules on the extensor surfaces of the bilateral hands to forearms. The papules were dense on the left side. The palms and soles were spared. The keratotic papules were yellowish-brown, 1 – 3 mm in diameter and arranged along the line of Blaschko. Some papules were dark-black and comedo-like. There was no itching, pain or tenderness. General laboratory findings were within normal limits. Past medical and family history was unremarkable.

The haematoxylin-eosin stained specimen showed deep epidermal invaginations with keratotic material. There were also columnar masses of parakeratotic material resembling cornoid lamellae.

Tacalcitol ointment was applied twice a day and 6 months later the lesions had disappeared completely. The skin surface became smooth. There was only one episode of slight local recurrence, which was improved by the second trial of tacalcitol. No true recurrence nor any side effect has been observed during the 40-month follow-up.

DISCUSSION

NC is assumed to be a variant of epidermal nevus, particularly involving the hair follicle (3). It appears from birth to early adolescence on the face, neck, trunk and arms. Among 110 reported cases, only 5 have had bilateral lesions (2).

Cornoid lamellae is suggested to be an epithelial reaction pattern rather than a specific finding in porokeratosis or porokeratotic eccrine ostial and dermal duct nevus (4). Varieties of epidermal nevus including NC could have cornoid lamellae (5). Histopathologically, the cornoid lamellae in our case arose from the follicles, not eccrine ducts. We diagnosed this case as NC, a variant of epidermal nevus.

The treatment of NC has not yet been established. Minimally effective, previously reported treatments have included surgical excision, superficial shaving, dermabrasion, comedo extraction, topical retinoic acid (6) and oral synthetic retinoid (7).

The efficacy of tacalcitol therapy for NC was suggested because the lesions in this case disappeared completely 6 months after the administration of tacalcitol ointment, which is an active form of vitamin D_3 for external application. It showed 1,24-dihydroxycholecalciferol ($1,24(OH)_2D_3$) in structural formula. There have been some reports of inflammatory linear verrucous epidermal nevus responding to vitamin D_3 ointment, such as calcipotriol (8) and tacalcitol (9). It has been shown that tacalcitol induced differentiation of keratinocytes derived from psoriatic plaques and inhibited their growth (10). In our case, an H&E specimen demonstrated hyperkeratosis, cornoid lamellae and reduction of the granular layer. These findings confirmed the improvement in this case.

In conclusion, we recommend topical vitamin D_3 ointment as the first-line therapy for NC.

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